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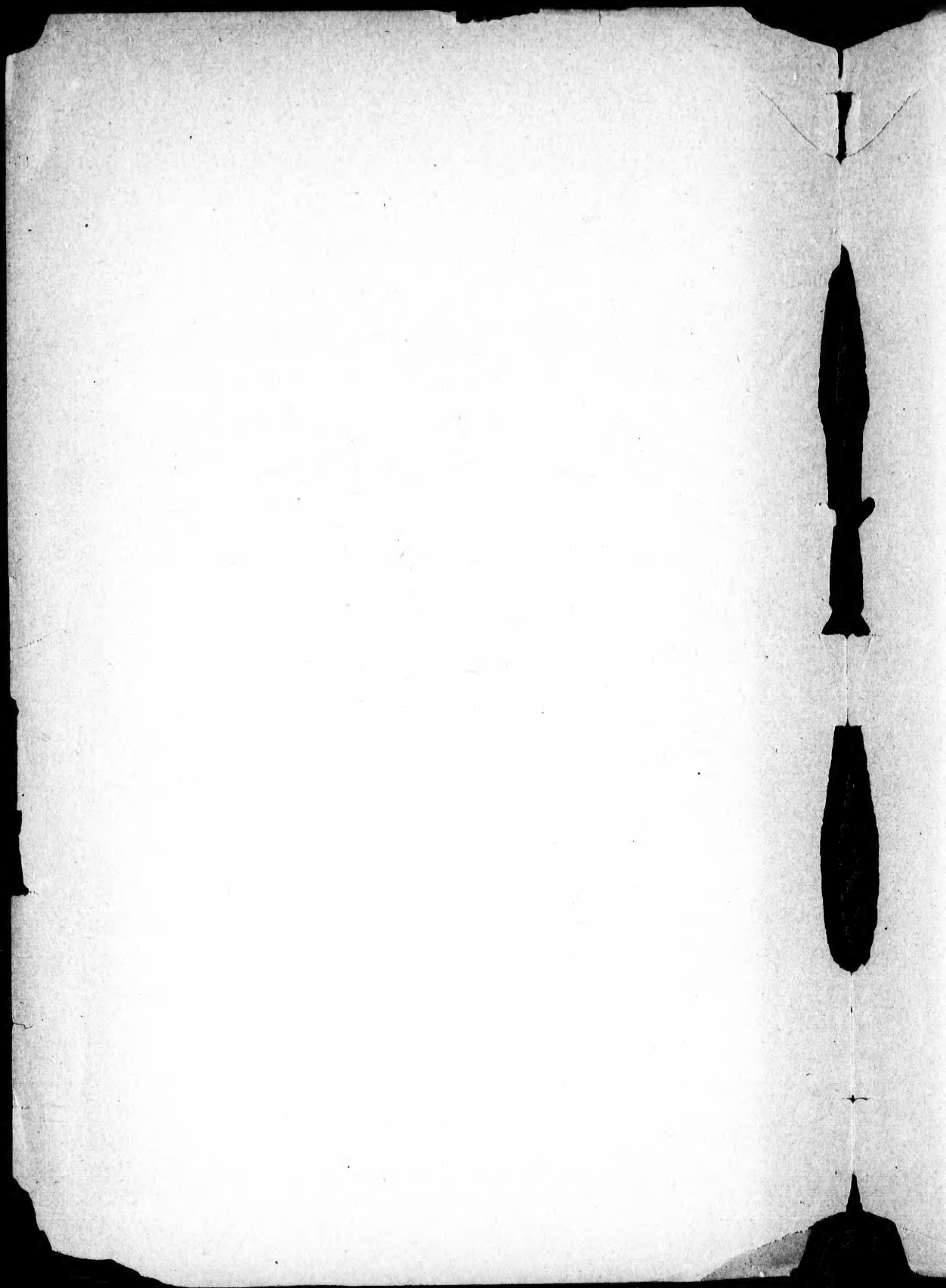
Adami, J. G.

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TUBERCULIN PATIENTS.

BY

J. G. ADAMI, M.A., M.D.,
Professor of Pathology McGill University, Montreal.

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NOTES ON THE LUNGS OF ONE OF KOCH'S EARLIEST TUBERCULIN PATIENTS.*

By J. G. ADAMI, M.A., M.D., (Cantab.) M.R.C.S., Eng.,
Professor of Pathology McGill University, Montreal.

The lungs in the case about to be recorded possess a certain amount of interest, inasmuch as according to the history given by the patient, a highly intelligent man, thirty-three years old, he was one of the first to undergo treatment under Professor Koch in Berlin.

The patient, A. Rickstrom, was born in Finland and was in good health until 1890, when he suffered from hæmoptysis, followed by a cough, night sweats and progressive emaciation. He was admitted under Koch at the Victoria Hospital in Berlin and there continued for fifty-two weeks undergoing periodic inoculations with tuberculin. Under this treatment his appetite improved, he began to gain flesh, and the night sweats passed away. He returned to Finland, and his health appeared to be restored. In June, 1893, he came to Canada and was employed as a skilled mechanic in the engineering laboratory at McGill University. He remained apparently in perfect health until January of this year, when the cough returned, and all the old symptoms—night sweats, loss of flesh and bodily weakness. On March 20th there was an hæmoptysis, about half a gallon of blood being lost; on the 23rd and 24th there were two severe hæmorrhages. From this time until April 18th, he being now a patient under Dr. Stewart at the Royal Victoria Hospital, there was constant slight expectoration of blood with but little cough. On this last date severe hæmorrhages recurred, in all about a quart of blood being lost. Following upon this there was rapid loss of power, and the patient died ten days later.

At the autopsy it was noticeable that there was no indication of tuberculosis other than in the lungs, save for some quite recent and minute ulcers in the jejunum and ileum. The lungs, however, presented very characteristic tubercular changes. There were firm adhesions at both apices—so firm that on the left side the knife had to be employed to separate them. Both apices showed old tuberculosis in the shape of well-encapsuled caseous masses and small contracted cavities with dense envelopes and smooth but uneven internal aspect. In addition, the upper two-thirds of the uppermost lobe of the right lung and the upper half of the upper lobe of the left lung were greatly consolidated, contracted and presenting very well-marked

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interstitial fibroid change. Here evidently in both apices were to be seen the results of treatment in 1890-91—abundant signs of arrest of the tubercular process. It was, however, clear that the process had only been arrested—for the rest of the lung tissue was the seat of numerous rather large miliary tubercles, which from their distribution were broncho-pneumonic—distributed along the course of sundry bronchi. Injecting the pulmonary arteries with water led to the escape of the fluid through one of the main bronchi of the upper lobe of the left lung. Following this up a long cavity was entered into containing a globular laminated clot over what was the seat of rupture of the artery. Some difficulty was experienced in finding the actual lesion, the artery filled with thrombus escaping detection for some little time.

Bringing all these facts together it would seem most probable that the second attack of advancing tuberculosis was not a second infection, or infection anew, but originated in the old arrested foci of the disease, where the process lighting up again in the walls of one of the old incompletely contracted cavities had been followed by dissemination of the virus throughout the air passages, and had prepared the way for rupture of arteries passing along the walls of the cavity.

The recent tubercles were most numerous in the neighbourhood of the old tubercular disturbance. It was interesting to note that upon microscopical examination they were found to be surrounded with very little pneumonic disturbance; they were not of the rapidly advancing type, but on the contrary were in general fibroid, with distinct caseous centres and large outer zones of developing fibrous tissue. This would indicate one of two conditions—either the bacilli causing the lesions were relatively attenuated, or the reaction on the part of the tissues was relatively considerable. We should be prepared to accept the latter alternative if, as is not impossible, the beneficial effects of long-continued tuberculin infection last for a considerable period, but I know of no case in which this has been demonstrated for periods longer than a few months. It should here be added that the microscopical appearances of sections of the lungs were in harmony with the clinical history and with the general results of the autopsy. The pectoral and other muscles were fairly well-developed and of good colour; there was a fair amount of subcutaneous fat.

But perhaps the most interesting feature of the specimen was the evidence it gave of the extent of pulmonary tuberculosis capable of being arrested by Koch's treatment. Both apices had clearly been the seat of extensive tuberculous change. There was extensive tubercular pleurisy, much caseation, and the development of numerous (five or six) cavities in the two apices. The treatment that the patient had undergone during his year's stay in the Berlin hospital had succeeded in bringing the lesion to a standstill during four years.